

To The Mayor, Aldermen and Burgees  
The Borough of Ilkeston.



Gentlemen,

It again becomes my duty to present my Annual Report on the health and sanitary condition of the Borough of Ilkeston during the year 1893, and in doing so, I would repeat what I stated in the Report for the previous year with reference to the population.

The only time when we get a correct population to work from in estimating the birthrate and death rate is in the census year. During the intercensal periods the population has to be estimated, and our calculations are liable to errors of excess or deficiency more or less serious.

The difficulties in making a correct estimate of the population are great, for we have to take into account the emigration and immigration out of, and into the district in addition to the natural increase due to excess of births ~~or in~~ over deaths. I have estimated the population to be 20,930 at Midsummer 1893.

### Deaths.

During the year, 358 deaths were registered in your district against 355 in 1892 and 417 in 1891. Of these 358 deaths, 206 were males and 152 females. 301 were certified and 57 uncertified. 22 Inquests were held.

It will thus be seen that the deathrate amounted to 17.1 per 1000 per annum, against 17.2 in the previous year. In the first quarter of the year, there were 72 deaths, 44 males and 28 females. 37 were under and 35 over 5 years of age. 56 were certified, 11 were uncertified, and 5 inquests were held. During the same period, 115 male children and 126 female children were born.

During the second quarter, 90 <sup>Deaths</sup> ~~births~~ occurred, 50 males and 40 females, 46 were under 5 and 44 over 5 years of age. 72 were certified, 10 uncertified and 8 inquests were held. During the same period 246 births were registered of which 125 were males and 121 females. In the third quarter, 102 deaths were registered, 57



To the Mayor, Aldermen and Burgesses of  
The Borough of Leicester.

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Annual Report on the Health and Sanitary Condition of the  
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Christmas 1893.

### Deaths.

During the year 358 deaths were registered in your  
district against 355 in 1892 and 417 in 1891. Of these  
358 deaths, 205 were males and 153 females, 301 were  
certified and 57 uncertified. 22 inquests were held.  
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per 1000 for annum, against 17.2 in the previous year.  
In the first quarter of the year there were 73 deaths, 44  
males and 29 females. 37 were under and 36 over 5  
years of age. 50 were certified, 11 were uncertified, and  
5 inquests were held. During the same period, 115 males  
children and 125 female children were born.  
During the second quarter, 90 births occurred, 50 males  
and 40 females, 46 were under 5 and 44 over 5 years  
of age. 72 were certified, 18 uncertified and 8 inquests  
were held. During the same period 212 births were  
registered of which 125 were males and 87 females.  
In the third quarter, 102 deaths were registered, 57



males and 45 females. 70 were under and 32 over 5 years of age. 93 were certified, 6 uncertified and 3 inquests were held. 216 were registered in this quarter, of which 109 were males and 107 females.

In the fourth quarter, 94 deaths occurred, 55 under five and 39 over five years of age. 80 were certified, 8 uncertified and 6 inquests were held. During the same period 110 male and 86 female children were born.

### —Infantile Mortality—

In former Annual Reports I have drawn your attention to this subject which I regard as one of the most important and serious in the whole field of Public Health. 160 children died during the year before attaining the age of 1 year, and 374 before reaching 5 years. This number (194) gives a percentage of 54.9 of the total number of deaths. Calculating the deaths of those under 1 year as a rate per 1,000 births, we find that it amounts to 174.9, against 166.8 in 1892 and 203.7 in 1891. The corresponding rate for England and Wales as a whole was 140, so that you see Ilkeston greatly exceeds the averages. I have pointed out in former reports the causes which in my opinion are mainly responsible for this excessively high infantile mortality. Want of cleanliness and wrong, insufficient or excessive feeding are among the most common causes of deaths of infants. The leaving of children at home in the care of those who are too young and thoughtless or careless with regard to the children is another common cause. The children become cross and peevish. They are then dosed and drugged with cordials, soothing syrups &c almost all of which contain opium or Morphia and are therefore quite unfit for the use of young children.

The children in time die by a slow process of poisoning, another condition which has a very prejudicial effect on the health of young children is the dampness of the house walls and of the soil round dwellings. The walls of all houses should have an efficient damp <sup>proof</sup> course below the floor level. The roofs, spouting and downpipes should be in good repair and the latter should not run direct into the sewers. Drains should be laid with a proper fall and it is most important that the joints should be thoroughly water tight. The yards should be covered with some impervious material such as



age. 75 were certified, 50 were uncertified, and 3 unclassified. 100 were male and 25 were female. In the fourth quarter, 94 deaths occurred, 55 under five and 39 over five years of age. 50 were certified, 3 unclassified and 41 unclassified were fatal. During the same period 110 males and 80 females children were born.

Infantile Mortality

The former Census Report I have discussed your attention to this subject which I repeat is one of the most important and serious in the statistics of public health. 100 children during the year before returning the report of 1 year, and 30 before reaching 5 years. This number (75) gives a percentage of 50.9 of the total number of deaths. Calculating the number of these under 1 year as a rate per 1,000 births, we find it amounts to 174.9, against 168.8 in 1892 and 203.7 in 1891. The corresponding rates for England and Wales as a whole was 169.20. It is very clear that the infant mortality is the cause which I have pointed out in former reports the cause which in my opinion was mainly responsible for this excessively high infantile mortality. Death of children is one of the most common insufficient or excessive feeding and among the most common causes of death of infants. The feeding of children at the in the case of those who are too young and therefore covered with regard to the child is another common cause. The children become weak and feeble. They are then weak and sluggish with irritability, vomiting, and almost all of which contain opinion or criticism and are therefore quite unfit for the use of young children. The children have this by a slow process of poisoning, another condition which has a very injurious effect on the health of young children is the dampness of the house and out of the wet ground during the winter of all houses about have an effect on the children. It is the first law of the body, affecting and destroying the body in a good sense and the latter should not be turned into the air. It is almost the last with respect to the fact that it is most important that the joints should be kept in a healthy manner. The joints should be covered with some material such as



asphalte to carry off storm water, slops &c quickly, and prevent them soaking into the ground and foundations. This chronic state of dampness causes Bronchitis, Catarrh, Rheumatism, neuralgia and Phthisis, and may possibly have some effect in causing or at least predisposing to Diphtheria and other throat affections. One other very important cause to which I have frequently alluded is undoubtedly gross ignorance and carelessness on the part of parents with regard to infectious diseases. An idea prevails, a fatalistic idea I have called it, that children must take these infectious diseases sometime during their lives, and that the sooner they have them the better. This idea leads parents often intentionally and deliberately to expose their children to infectious diseases for the express purpose of giving them the disease, forgetful or ignorant of the fact that infectious diseases are the more fatal and the more severe in their course and complications the younger the patients. If the taking of these diseases can be avoided, and I maintain that it can be, I contend that it is criminal to so expose any child to any infectious disease. If the child takes any such disease when it has reached such an age as to be able to resist the disease its chances of quick recovery are very much increased. For the purpose of dispelling this ignorance and carelessness, I would suggest the holding of classes on Sanitation and Nursing under the auspices of the County Council or the St John Ambulance Association\*. You would be doing meritorious work. Gentlemen, by using your utmost exertions to remove this carelessness, and thereby minimise this terrible wholesale slaughter of the innocents. A certain number of deaths of infants and young children is bound to occur each year, but my contention is that many of those deaths which occur are preventible, and that therefore some one is responsible, morally though not legally, for this wanton waste of infant lives. To induce all who have the care of children to realise the responsibility which rests upon them is work of vast importance which you, Gentlemen, ought to take up in real earnest. It is work which would in time bring its own reward.

\* I held one such class during the year which was most successful.







These numbered 899 during 1893 compared with 905 in 1892. The nett natural increase was consequently 541. The increase due to immigration and the decrease due to emigration are extremely difficult to estimate. Of the 899 births 459 were males and 440 females. The above facts might be summarized as follows, dividing the year into quarters.

Quarter Ending	Deaths										Certification			Births	
	Total	m.	f.	under 1 year	under 5	15	25	60	over 60	Certified	uncertified	Inquest	Male	Female	
31 Mar 93	72	44	28	31	6	3	3	12	14	56	11	5	115	126	
30 June 93	90	50	40	39	7	4	3	19	18	72	10	8	125	121	
30 Sept 93	102	57	45	60	10	8	4	11	9	93	6	3	109	107	
31 Dec 93	94	55	39	30	12	4	4	20	24	80	8	6	110	86	
Totals	358	206	152	160	35	19	14	62	68	301	35	22	459	440	

### Zymotic Diseases.

The seven principal zymotic diseases caused 33 deaths

Smallpox	0
Scarlet fever	4
Measles	0
Diphtheria	2
Whooping cough	1
Fever (Enteric &c)	9
Diarrhoea	17

Total 33

Of these 13 occurred in Ilkeston 18 in Cotmanhay and 2 in Hallam Fields. In the early part of the year, I had occasion to recommend the closing of the school at Hallam Fields on account of a serious outbreak of Measles. Later in the year I again recommended the closing of the same school on account of a widespread outbreak of Scarlet-Fever. In reference to these two outbreaks I furnished the Health Committee, with the following special report, a deputation of residents at Hallam Fields alleging that the presence of these diseases in Hallam Fields was entirely due to the proximity and offensiveness of the effluvia from the Sewage Farm.



These numbers 877 during 1893 compared with 903 1892. The next natural increase was consequently 244. The increase due to immigration and the decrease due to emigration are extremely difficult to estimate. Of the birds 437 were males and 440 females. The above facts might be summarized as follows, dividing the year into quarters.

Quarter Ending	Total	Peasants										Emigration	
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
31 Mar 93	42	42	31	3	3	3	12	17	25	11	5	115	
30 Jun 93	90	20	24	7	4	3	19	18	42	10	8	125	
30 Sep 93	100	27	20	10	2	4	11	9	93	6	3	109	
31 Dec 93	94	23	20	12	4	4	20	24	20	8	6	110	
Totals	328	100	35	19	14	62	68	301	35	22	434		

Symptomatic Diseases	
Scarlatina	17
Typhoid (enteric ty.)	9
Whooping cough	1
Pneumonia	2
Measles	0
Scarlet fever	4
Scarlatina	0
Totals	33

Of these 13 occurred in 1893. In the early part of the year, I had in Ballam fields. In the early part of the year, I had occasion to recommend the closing of the school at Ballam fields on account of a serious outbreak of measles. In the year I again recommended the closing of the school on account of a widespread outbreak of scarlet fever. In reference to these two outbreaks I furnished the Health Committee, with the following special report, a representation of residents at Ballam fields alleging the presence of these diseases in Ballam fields was entirely due to the proximity and offensiveness of the effluvia from the sewage farm.



Report on the occurrence of Scarlet Fever, &c at Hallam Fields during 1893, said to be due to the proximity of the Sewage Farm.

To the Chairman and Members of the Health Committee

Gentlemen

During the 8 months from January to August of this year there occurred in Hallam Fields

- (1) 102 cases of Scarlet Fever
  - (2) 39 " " Sore throat
  - (3) 99 " " Diarrhoea
  - (4) 64 " " Measles and
  - (5) 20 " " illness of various kinds
- Total 324 cases

The population of Hallam Fields is 1014

In the first place, we might at once dispose of (5), the 20 cases of illness of various kinds, which might occur in any community, and have as far as I can see no connection with sanitary or insanitary conditions. In the case of (3), the cases of Diarrhoea were "pretty equally distributed through the place". It was not more prevalent in Hallam Fields than in other parts of your district. So far as my knowledge goes, ~ Diarrhoea was prevalent in all parts of the district, as much so in botmanhay as in Hallam Fields, but did not single out one street or one part of the district for attack leaving the rest unvisited.

Two factors are present in almost all outbreaks of Summer Diarrhoea. It has been found, the, before any serious outbreak of Diarrhoea occurs, the temperature of the soil must reach a certain height. This point appears to have been reached earlier than usual this year, owing no doubt to the exceptionally hot Summer. The other condition is the presence of decaying or ~







putrefying organic matter in the house, or in the soil - surrounding the house or in both. This latter condition was present abundantly in that part of Hallam Fields most affected by Scarlet Fever &c. Children, as is well known, are more susceptible to the effect of insanitary conditions than adults, and hence we find Diarrhoea more prevalent among them. The temperature of the soil is a condition over which we have practically no control, but the other condition - uncleanly habits of body, uncleanly houses, yards polluted by slops and filth, untrapped drains, foul undrained and uncleaned pigstyes and such like insanitary conditions as are to be found unfortunately too frequently - is one which is completely under control. This control in some cases must be exercised by the individual, either owner or tenant, in others by the local Sanitary Authority. The individual, for example, is responsible for the cleanliness of his own body, his house, his yard, the local Sanitary Authority, for emptying pits, privies, the prevention of nuisances from pigstyes, drains, accumulations of filth, and so on.

#### Incidence of Scarlet Fever at Hallam Fields

Now when we come to consider the incidence of Scarlet Fever and Measles in Hallam Fields, we cannot but be struck by their very unequal distribution. In the houses nearest to the Sewage Farm - North View, Kingsdown Terrace, Cornfield Houses, Mitchell Terrace &c (call this "District A") we find only 5 cases of Scarlet Fever, while in Crompton Street, Post Office Row and South View (call this "District B") there were 94. On examining the two districts with a view to discover the cause of the immunity of the one district and the large number of attacks in the other, we find that in "District A" the houses are for the most part new, and as a rule have a higher standard of cleanliness with less overcrowding than in "District B". In this, the houses are more or less overcrowded partly through large families partly through taking in lodgers. In "B" we also find that much less attention is paid to personal and domestic cleanliness, and to the avoidance of pollution of the yards by slops and sewage







than there ought to be. In view of the large number of untrapped or badly trapped drains, foul pigstyes &c in "District B", it is not to be wondered at that numerous cases of sore throat of a diphtheritic character should have occurred. I have, however, received no notifications of any case of Diphtheria at Hallam Fields during the year. From my own observation of cases, I am convinced that the majority of cases of sore throat which occurred at Hallam Fields were in reality due to attacks of Scarlet Fever with little or no rash. Such cases occur in all epidemics of Scarlet Fever. We should not be far from the truth, I think, if we simply lumped the 39 cases of "Sore Throat" with the 102 Cases of Scarlet Fever, and said that there were 141 cases of Scarlet Fever.

The question next arises, "If this outbreak of Scarlet Fever was due to the Sewage Farm, how is the freedom of Hallam Fields from infectious disease for several years back to be explained." The fact that the Sewage Farm has existed on its present site for years without any material alteration for the worse points conclusively, I think, to the absence of any connection as cause and effect between the farm and the outbreak of Scarlet Fever. Some years ago, there was an outbreak of Scarlet Fever in Ilkeston during which Hallam Fields suffered to the same extent as the rest in proportion to its population. Since that time there has been a period of quiescence, a period of freedom from infectious diseases. During this period susceptible persons have been accumulating, so that on the introduction of a case of Scarlet into school the Epidemic was started with every possible chance of spreading. The first cases which occurred were among children of school age, not among infants, although it afterwards spread to them. The outbreak of Scarlet Fever was to a great extent checked by the closing of the school, thus proving beyond doubt that the school, if not the only factor, was at any rate a very important one in spreading the disease. The School at this time was certainly overcrowded. It







has since been enlarged.

Now what do we find in all records of epidemics of Scarlet Fever, and of most other infectious diseases? We find that this periodical appearance of the disease is well marked more so in some towns and districts than in others. It is thus manifest that Scarlet Fever is not a disease which is much influenced by such conditions as defective drains &c. by such conditions as would, in fact, favour the spread of Enteric Fever. The disease does, on the other hand, spread rapidly in families or schools where overcrowding exists. The same remarks apply with equal force to Measles, the incidence of which was practicably the same as that of Scarlet Fever.

In reference to the sewage farm and the methods of sewage purification carried on there, I need say very little, as the whole matter is being rearranged, and I trust that when the rearrangement is completed there will be no cause for complaint on the part of the good people of Hallam Fields. That there have been smells and odours from the Sewage farm especially during this exceptionally hot summer, all must admit, I would point out to you, Gentlemen, that in dealing with sewage whether in drains, sewers or elsewhere, if the free admission of fresh air be obstructed or impeded, the worse and more foul smelling will the stench become. If you cork up the stench at the Sewage Farm, where I consider there ought to be the very freest ventilation, you simply drive the sewer gases back into the houses of the people, even though there may be well formed and well constructed traps which would under ordinary circumstances prevent their admission.

### Conclusions

- I We may discount the 20 cases of various kinds of illness as having no bearing on the case at all.
- II The 102 cases of Scarlet Fever and the 39 cases of sore throat should be combined as being the same disease.
- III Diarrhoea was not appreciably more common in Hallam Fields than in other parts of the district - distant from the Sewage Farm, and can be accounted for easily by insanitary conditions brought about chiefly by the people themselves, which conditions







they can as easily prevent as cause.

IV Scarlet Fever and Measles, unlike Enteric Fever, are not influenced by insanitary conditions and uncleanly habits to any great extent, but spread in periodical waves or epidemics after periods of almost complete absence, among susceptible individuals. The chief means of spreading Scarlet Fever and Measles is by overcrowding and want of free ventilation at home or at school, and want of early and sufficiently-long isolation of the first cases.

V Freer ventilation of drains and sewers is desirable.

I have endeavoured in this short Report to place before you simply what bears on the matter under discussion. I hold no brief for the defence of the Sewage Farm, I have therefore omitted many matters of much importance in connection with the Farm. I have tried to lay the responsibility of the outbreaks of disease at Hallam Fields on the shoulders of those really responsible for their occurrence.

I am, Gentlemen,

Your Obedient Servant

Joseph Carroll M.B., D.P.H.

Medical Officer of Health

31<sup>st</sup> October 1893.







Report on the Conditions which would assist in spreading the infection of Cholera in Ilkeston.

To The Mayor, Aldermen & Burgesses of the Borough of Ilkeston  
Gentlemen,

In view of the possible introduction of Asiatic Cholera into your district, I have thought it advisable to point out to you the conditions which would favour the spread of the disease.

- (1) Water supply. The question of the water supply is one of the most important considerations in connection with outbreaks of Cholera, Diarrhoea, Enteric Fever &c. On the subject of the water supply of Ilkeston I have spoken frequently and in condemnatory terms. Our supply is at the present time ample, but being largely made up of water from the Nutbrook and Stanley Brook both of which are very badly polluted with sewage from villages on their banks, it is very far from being satisfactory. The water from these polluted sources ought to be cut off, and a better supply found at once. I would suggest that while the people are compelled to use this polluted water, they should thoroughly boil it before use, none of it should be used unboiled, and none used more than 24 hours after being boiled. We can do very little to prevent this pollution of the water supply, so that the proper course for us to adopt is to abandon the Nutbrook as a source of water supply and push on with the Babbington scheme since the water from that source appears from the Analysis to be very satisfactory.

The necessary powers to prevent the pollution of our water supply are given by the Public Health Act 1845 and the Rivers Pollution Prevention Act 1846 and the Local Govt Act 1888.

- (2) Food. Anything which weakens or impairs the general health of the people renders them more liable to attacks of illness. On this account, tainted food, and unripe, unsound, and too ripe fruits ought to be studiously avoided. All milk ought to be boiled at once on being received into the house, since it is well known that milk is one of the best







means of conveying the infection of such diseases as Cholera, Enteric Fever &c. In this connection, I would urge upon you, Gentlemen, to exercise strict inspection of all dairies, cowsheds, and slaughter-houses. The byelaws you have recently adopted in respect to these ought, if strictly carried out, to effect great improvements in their Sanitary condition.

(3) Air. The air may be seriously polluted by slops, garbage and other refuse thrown on the streets and on yards behind houses, and allowed to lie there putrefying. In the case of Cholera, Enteric Fever &c the discharges from the bowels and stomach ought to be thoroughly disinfected, and then, if possible, buried away from any source of water supply. These discharges never ought to be thrown on the yards under any circumstances nor ought they to be thrown into ashpits or privies without previous thorough disinfection.

(4) Disinfection ought to be carried out thoroughly and systematically in all cases of infectious disease. This can be done in the case of infected clothing, bedclothes and all articles that admit of it, by placing them at once in a solution of the Perchloride of Mercury. Some colouring matter should be added, as it is very poisonous, to prevent accidents, and the addition of an acid to the solution increases its activity. Metallic articles, e.g. spoons, knives &c must not be placed in it, nor must it be put into metal buckets or vessels. Of course, it may be freely used in earthenware vessels. All articles steeped in this solution ought to be put to soak for several hours before being washed. The Local Govt Board recommend for disinfecting floors, excreta &c that this solution should be made as follows - Perchloride of Mercury  $\frac{1}{2}$  oz. Hydrochloric Acid 1 oz, Water 3 gallons (a bucketful) It should be coloured with 5 grains Aniline blue, Sulphate of copper or Permanganate of Potash. It should be used without further dilution. Chloride of lime is also useful for disinfection of excreta. For clothing, 2 oz to 1 gallon of water is strong enough. Carbolic Acid, 5 per cent at least in water, is useful for disinfecting the excreta and soiled linen of Cholera patients. If bedding &c be very







filthy, it pays best to burn them, and give compensation under section 121. Public Health Act 1875. Bedding and large pieces of furniture &c which cannot be treated with any of the above solutions should be disinfected by heat, but at present no means are provided for such disinfection. The best apparatus for the purpose is the steam disinfector invented by Washington Lyon.

- (5) I have on many occasions urged upon you the necessity and the advantages of adopting the Infectious Diseases Notification Act 1889 and the Infectious Diseases Prevention Act 1890. The diseases notifiable under the Act of 1889 are Smallpox, Cholera, Diphtheria, Membranous croup, Erysipelas, Scarlet, Typhus, Enteric, Relapsing, Continued and Puerperal Fevers. Unless we know that infectious diseases exist in the district and where, how can we expect to deal successfully with any outbreak? I look upon it as your bounden duty, as the custodians of the Public Health to adopt these Acts at once, and especially in the face of the possibility of the early introduction of Cholera and Smallpox.

(Note. The Infectious Diseases Notification Act 1889 was adopted and came into force on 1<sup>st</sup> April 1893.)

- (6) House refuse ought to be more frequently removed than at present, and plenty of disinfectants used to sprinkle over the inside of the ashpits &c. I should advise that more men and horses be employed so as to ensure the frequent removal of all household refuse, excreta &c from privies and ashpits. But the difficulty of dealing with this refuse is not settled when it is removed from the ashpits and deposited at the "tips". Our system of tipping it at various places is bad from every point of view, and I now urge upon you the absolute necessity of providing at once some means of destroying this refuse by burning. The provision of such a refuse destructor would confer vast and lasting benefits on your Sanitary district. The accumulations of filth are large and yearly increasing, so that you will be compelled sooner or later to provide a destructor. It is not expected that it will pay in £. s. d., but it will repay the people of the district by having purer air to breathe, and having therefore better health and less sickness.







(7) It would be advisable to make provisions for the immediate treatment of all cases of illness where diarrhoea with or without vomiting is a symptom, no matter how slight the attack may be or may seem to be. The premonitory diarrhoea of Cholera is often very slight and painless, and it is well known that judicious treatment during this stage of the disease is much more likely to cure the patient than if the disease be allowed to ~~go on~~ <sup>go on</sup> to a more advanced stage.

(8) We are at the present time threatened with two severe and fatal epidemic diseases - Cholera and Smallpox. It is necessary,  $\therefore$ , that I should point out to you that our present hospital accommodation would be totally inadequate in the event of a simultaneous outbreak of these two diseases. On measuring the rooms in the hospital at Little Stallam, I find that there is accommodation for only 12 patients, i.e. allowing 5,000 cubic feet for each patient. One of the wards has to be used at present as a bedroom, so that I should advise you to erect some wooden huts on the ground where the Sanatorium stands. These would cost little, and would be perfectly efficient. We could then promptly isolate cases as they occurred.

We ought to do all in our power to induce patients suffering from infectious diseases to avail themselves of the Sanatorium. For this purpose, we ought to remit all fees for treatment &c. while patients there. As Dr. Whitelegge puts it :- "It is of the utmost importance, if isolation is attempted upon the large scale, to make the hospitals perfectly free, and this is only reasonable since the public gain as much as the patient by his seclusion. Any charges, however small and however easily remitted, are deterrent in the very cases in which isolation is most needed. The revenue from patients' fees is at most a small fraction of the cost of maintenance, and the wholesale remission of them - without which the isolation of cases among the working classes is impracticable - has an appearance of charity which is naturally resented.

An exception may be made in respect of the wealthier classes who are willing to pay suitable fees for the use of private wards and special nurses."

(9) Handbills ought to be printed and distributed to the people giving them the necessary directions how to proceed in cases







neglect of the instructions. (This has been done. J.C.)

- (10.) In the event of anyone dying of an infectious disease such as Smallpox or Cholera, the body should be placed as soon as possible in the coffin which should be filled up with disinfectant, and the lid screwed down. Mourners should not meet in the room in which the death occurred. If the body is a danger to health, it may be removed to a mortuary.

I am, Gentlemen

Your Obedient Servant

Joseph Carroll







The Sanitation Bill was originally introduced by Mr. J. H. ...  
decided to adopt came into force on 1<sup>st</sup> April 1893 since that date I  
have received 156 notifications from Medical men in the Town. Of  
these 61 were cases of Scarlet Fever 77 cases of Enteric Fever, 7  
Diphtheria 2 membranous croup, 3 Erysipelas, 4 Pneumonia fever  
and 2 Cholera. It is possible that we might have become aware  
of the existence of these cases of infectious disease without compulsory  
notification, but I fear we should not. With conditions practically  
the same during 1892, a very much smaller number of cases  
was reported, so that I am inclined to look upon the adoption of  
the Act of 1889 with great favour and hopefulness. The reports,  
besides localizing individual cases, point out to us the particular  
respects in which our sanitary arrangements are defective. Enteric  
Fever has been termed "a filth disease" because caused by pollution  
of water, soil, air and food by sewage or other organic filth.  
The great prevalence of this disease in your district points to a  
most serious and dangerous state of matters. It is a well known  
fact that our water supply is from polluted sources. Our soil  
and subsoil are polluted by old-fashioned leaky privies -  
middens, by defective drains and sewers. The same may  
contaminate our air, and our food may be contaminated  
and polluted in a great variety of ways. Untrapped or badly-  
trapped drains in houses, cellars, defective drains, leaky cesspools  
etc, may contaminate our milk and other foods. It is well  
known that very severe outbreaks of disease have been caused  
by drinking contaminated milk, and many obscure cases of  
illness may be attributable to similar causes.

The prevalence of Enteric Fever has another, and I might  
almost say a more serious significance. There are other  
diseases known as "filth diseases", and these include some of  
the most serious and fatal epidemic diseases which afflict  
mankind. Of these repulsive diseases "Cholera", "Asiatic Cholera",  
or "Cholera Morbus", as it is sometimes termed, in contra-  
distinction to English Cholera, is the one most to be dreaded.  
Now Enteric Fever is always with us when our air, food, drink  
and water are polluted, and as Cholera is propagated in  
precisely the same way, we may take Enteric Fever as an  
index of our liability to the more deadly disease. This  
being so, and taking into consideration the fact of two  
undoubtedly genuine fatal cases of Asiatic Cholera having







actually occurred in Ilkeston during the year besides 2 in which there was a very strong suspicion of genuine cholera, I contend that we ought to be up and doing to remove from our midst all possible sources of danger. We must leave nothing in our district which is in any way suspicious. And first and foremost among the many urgent sanitary improvements required in the Town is improvement of our water supply. In a report I submitted to you early in the year, I pointed out many sanitary defects and you may depend on it that if Cholera breaks out in Ilkeston in the Summer of 1894, as I expect it will do, it too will point out the same sanitary defects, only in a way which compels attention. Cholera can only thrive in our midst if we allow it by permitting all sorts of pollution of our water-supply, all sorts of defects in our arrangements for refuse and excrement, disposal and destruction. The health of the people of Ilkeston it is your special duty to guard and protect by every means which modern science and research place at your disposal, and any Sanitary Authority which neglects to avail itself of these means is neglecting its first and most obvious duty. Mr. Wheaton from the Local Govt Bd. visited your district twice on account of the outbreak of Cholera, and on the second occasion (31<sup>st</sup> October 1893) pointed out to you practically the same sanitary defects as I had previously drawn your attention to in my Annual and other reports. I should like to see more activity in carrying out his suggestions and recommendations for the improvement of the health and sanitary condition of the Town.

We are still unprovided with any effective means of disinfecting clothing, bedding &c. At the present time there are several excellent forms of disinfecting apparatus, one of the best of which is the steam disinfecter patented by Washington Lyon.

19 Patients were treated in the Sanatorium during the year, namely 5 from Scarlet Fever, 1 from Smallpox, 7 Enteric Fever, 4 other diseases. I paid in all 121 visits to the Sanatorium. In speaking on this subject I would again urge you to take into consideration the advisability of making admission to the Sanatorium easier and less dependent on the Relieving Officer. People naturally resent







believe in making admission to the Sanatorium absolutely free, since the people gain as much as the patient by his isolation. The necessary sequel to making admission free is to make removal to the Sanatorium compulsory in the case of the poorer class who are very badly provided with any means of isolating and nursing such cases. The keeping of such cases at home in small, and sometimes overcrowded rooms, renders possible extensive outbreaks of these diseases.

The town of Ilkeston is situated on the borders of Derbyshire. The Sanitary district has an area of 2526 acres, and a population (estimated to the middle of 1893) of 20,930. The soil of the district is principally clay overlying ironstone and coal.

The only navigable waters in the district are the Erewash Canal on the East and the Nutbrook canal on the West. The river Erewash, accompanying the former, forms the boundary between the Counties of Nottingham and Derby, while the Nutbrook runs alongside the latter. The Erewash river is contaminated with sewage from villages and farms higher up the stream, and the sewage from parts of the Borough below the level of the intercepting sewer also passes into it. The Nutbrook is also sewage-polluted by places higher upstream. A short distance above the waterworks at Kirkstallam, the Nutbrook is joined by the Stanley-brook, which receives a very large amount of sewage from Stanley and places in that direction.

This pollution is much to be regretted since Ilkeston has to depend to a certain extent for its water supply on these sewage-polluted streams. The rest of the water supply, 90 per cent, is derived from a shaft at Kirkstallam and the reservoir at Shipley to the North of the Town. I have heard no complaints during the year with regard to the supply, but being polluted as before-mentioned, it must be considered unsatisfactory as to quality:-

The number of houses supplied with Town water exclusive of business premises is 3664 being an increase of 222 on previous year. The average consumption of water per head per diem was 16.5 gallons.



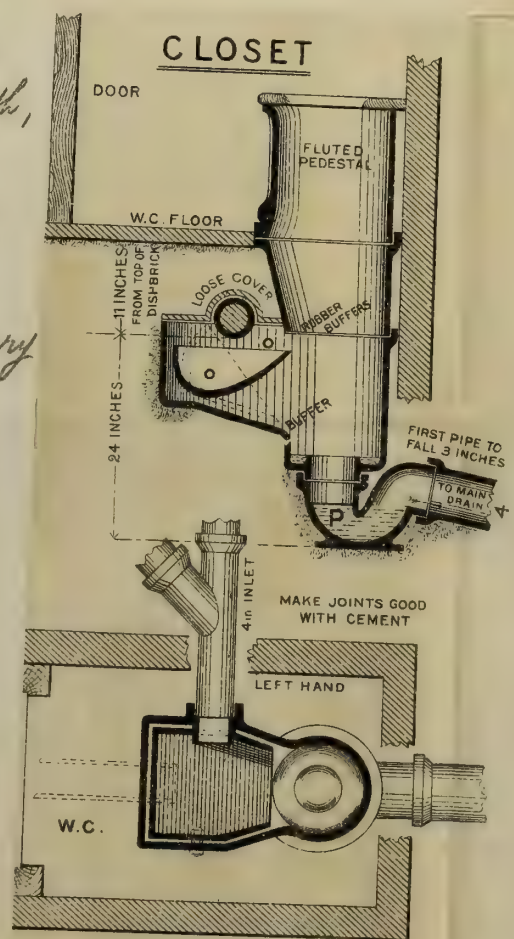


## Disposal of Household Refuse

As regards the Disposal of house-refuse, I would again draw your attention to the unsatisfactory arrangements now in force. There was a little more activity displayed in its removal for a while after Dr. Wheaton's visits and in consequence of his recommendations. But this increased activity has not been maintained, and in consequence matters have simply relapsed into their former unsatisfactory state. I have had several complaints during the year about the emptying of ashpits and tub-closets. There is considerable difficulty in rapidly-growing places in keeping pace with the accumulation of house-hold refuse. This difficulty is increased when we continue to increase the number of tubs. I consider the tub-system an unsatisfactory and expensive one. Instead of increasing the number of tub-closets, I would strongly recommend the introduction of W.C.'s where ever possible. For Cottage Property no form of closet is in my opinion better adapted than the waste water closet, one form of which is shewn in the accompanying illustration. In this the wastewater is conducted by a pipe from baths, sinks &c. into a tumbler so arranged that when full it tips over flushing everything before it into the sewer. where water is scarce, or where it is desirable not to increase materially the amount of sewage to be dealt with, this is a most useful form of closet. Tubs are being abandoned in almost every town where they have been in use as a more expensive and insanitary system than that by water carriage.

Very few ashpits are now emptied by private individuals but I consider it the duty of the Sanitary Authority themselves to remove all refuse and do all scavenging. Private individuals frequently neglect the emptying of ashpits and so cause nuisances.

The favourite arrangement in Dekeston for disposal of household refuse &c. is the old fashioned privy-







midden. This combination has the great disadvantage of keeping large accumulations of decomposing filth and refuse. I may say all these privy-middens allow of percolation of sewage through their sides and bottoms and lead to serious pollution of the soil and ground air and water. This arrangement is one which I consider never ought to be allowed in a town of the size and importance of Ilkeston, but if constructed, should be made as recommended by the County Council, copies of these plans, (sections, elevations, and specifications) of privy middens can be obtained from Messrs Bemrose, Derby.

In connection with refuse disposal, I again wish to draw your attention to the necessity of erecting a Refuse Destructor. Our present system of tipping the refuse at various places is the most objectionable and the most dangerous way of disposing of it. The continuance of this system, year after year is bound to be followed by serious consequences to the health of the town. The Sanitary Authority of any district has no right to create nuisances for the removal of which they would promptly serve a notice on a private individual. I can only repeat that the greatest nuisances in Ilkeston are caused by our refuse tips.

Sewerage. The main sewer and submains are of sanitary glazed pipes, some of brickwork with a short length of iron pipes. The house drains are mostly of glazed earthenware pipes with cemented joints. To obviate the unpleasant smells sometimes complained of from the street gratings more ventilating shafts should be put in. Some have been put in with good effect.

The sewage is mostly disposed of on the Sewage Farm by irrigation and intermittent downward filtration. The remainder of the sewage from a small portion of the Borough below the level of the intercepting sewer is discharged into the Erewash Canal and River. Arrangements are in progress to have this sewage, treated chemically in precipitating tanks at various points, the water filtered through magnetic carbide filters and thereby rendered sufficiently pure to be discharged into any stream.





is situated at Little Stallam. It has 4 wards. 2 male and 2 female. There is accommodation for 12 patients. I may point out to you that in the event of an epidemic, or a simultaneous outbreak of two epidemic diseases, e.g. Smallpox and Cholera, our present accommodation would be totally inadequate. There is only one bedroom for nurses. So far, the hospital has been used for the treatment of cases of Smallpox, scarlet fever, and Enteric Fever.

The Bye Laws:- The Model Bye-Laws of the Local Govt Board have been adopted in so far as they relate to your district. The necessary corollary to their adoption is their strict enforcement, and this I have no doubt your officials are ready and willing to do through the various committees.

The Canal Boats Acts:- Ilkeston is a registration authority under the Canal Boats Acts 1847 and 1884.

The Houses of the working classes are upon the whole in fairly good habitable condition and repair. A good proportion of them is dry, but in most, ventilation is defective. A few are overcrowded, and in most there are as many inmates as the houses can accommodate. The closet accommodation is generally sufficient being 1 closet to two houses. In some cases, each house has its own closet, and a few are supplied with W.C's.

I should be very pleased if you would adopt the suggestion contained in my last year's report, namely, to keep at the Town Hall samples of the various sanitary appliances to be used, so that builders and others might be in no doubt as to what drainpipes, traps, W.C's &c they are required to put into buildings.

The condition of slaughterhouses remains unsatisfactory. I trust to be able to report a considerable improvement in respect of them when we get the new bye-laws fully into operation. In connection with this matter, I should be very pleased to see a small public abattoir erected in Ilkeston. We should then be able to inspect all meat exposed for sale in the Borough or being prepared for sale. As matters stand now, we have virtually no control over our meat supply. I often hear it said that one can sell anything in the shape of flesh meat in Ilkeston.





I subjoin Mr Evans' detailed list of work done in this department.

Your district has been regularly and systematically inspected by Mr Evans and myself for the detection of nuisances and infectious disease. I must point out to you that in the work of inspecting the district Mr Evans is greatly in need of an Assistant Inspector as recommended by Dr Wheaton, and I should advise the appointment of a thoroughly competent man with a good knowledge of building construction to assist him in the work. I make this recommendation in view of the fact that I am painfully aware ~~of the fact~~ that the jerry builder is not an unknown species in Ilkeston.

I am still far from satisfied with our sanitary condition. I have tried to indicate some of the matters to which we might direct our attention with advantage to ourselves and to the Town. I trust that I shall next year be able to record great advances in all matter relating to the Public Health. No one will rejoice over such advances more than I shall. On you, Gentlemen, rests the responsibility of improving the Sanitary condition of the Town and District, and I sincerely trust you will exert yourselves more and more each year to render the Town more pleasant and healthy to live in.

I beg to remain, Gentlemen

Your Obedient Servant.

Joseph Farroll M.B. D.P.H.  
Medical Officer of Health

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## NOTES ON TABLES A AND B.

- NOTE 1. *Medical Officers of Health of "Combined Districts" must make a separate Return for the District of each Sanitary Authority.*
2. *Medical Officers of Health acting for a portion only of the District of a Sanitary Authority should write, in the heading of the Table, the designation of the Division for which they act.*
3. *The words "Urban," "Rural," or "Metropolitan" must be inserted in the appropriate space in the heading, according as the Sanitary Authority for the District is Urban or Rural, or is within the Metropolitan Area.*
4. *The "Localities" adopted for the purpose of these statistics should be areas of known population; such as parishes, groups of parishes, townships or wards.*

As stated at the head of the first column in each Table, *Public Institutions* should be regarded as separate localities, and the deaths in them should be separately recorded. Workhouses, Hospitals, Infirmarys, Asylums, and other establishments into which numbers of people, and especially of sick people, are received are *Public Institutions* for the purpose of these statistics.

5. *The deaths which have to be classified in this Table (A), and summed up in the horizontal line of "Totals," are the whole of those registered as having actually occurred in the several localities comprised within the Division or District. But the registered number of deaths frequently requires correction before it can give an exact view of the mortality of a Division or District; and the two lowest horizontal lines are provided for the purpose of enabling Medical Officers of Health to indicate, to the best of their ability, what the extent of such corrections should be. Details concerning the corrective figures, e.g., the institutions that have been considered, or the particular localities to which corrections apply, may appear in the text of the report or in supplementary tables.*

Area and Population of the District  
or Division to which this Return  
relates.

Area in Acres 2526

Population (1891) 19744.

In recording the facts under the various headings of Tables A and B, attention has been given to the notes endorsed on the Tables.

*Joseph Small, M.B., D.P.H., Medical Officer of Health.*

(Date)

1<sup>st</sup> March

1894.





## NOTES ON TABLE **B.**

(See also Notes on back of Table A.)

- NOTE 1. The present *Table B.* is concerned with population, births, and sickness (not with mortality) in the Sanitary district or division to which the Table relates.
2. As stated in the heading of Col. (a), *Public Institutions* should be regarded as separate localities, and the new cases of sickness in them should be separately recorded. Workhouses, Hospitals, Infirmaries, Asylums, and other establishments into which numbers of people, and especially of sick people, are received, are Public Institutions for the purpose of these statistics.
3. *Comments on any unequal incidence of notifiable disease upon the several localities, and considerations as to the local incidence of consumption and other prevalent diseases, should be made in the text of the Report.*



# Table. C.

		1885	1886	1887	1888	1889	1890	1891	1892	1893
Deaths	Total number	306	340	312	371	381	432	417	355	358
	Rate per 1,000 } per annum	18.5	20.0	17.6	20.3	20.3	22.3	20.8	17.3	17.1
	Zymotic death- rate	2.72	2.45	2.21	2.47	2.07	3.15	1.96	2.25	1.67
Births	Total number	722	736	761	791	851	832	849	905	899
	Rate per 1,000 } per annum	43.7	43.0	43.1	43.4	45.3	43.0	42.1	44.1	42.9
	Rate of increase	25.2	23.0	25.5	23.1	25.0	20.7	21.3	26.8	25.8
Deaths from Zymotic Diseases	Smallpox	-	=	-	2	-	-	-	-	-
	Measles	6	1	-	6	2	21	-	20	-
	Scarlet Fever	14	2	-	3	12	10	9	-	4
	Diphtheria	1	1	1	-	-	-	1	-	2
	Whooping Cough	1	8	19	21	-	7	9	6	1
	Fever Enteric	7	2	2	8	12	8	3	7	12
	Typh <sup>us</sup> <del>us</del> &c }	-	-	-	-	-	-	-	-	-
	Diarrhoea	16	28	17	5	13	15	17	14	17
	Cholera	-	-	-	-	-	-	-	-	2
	Membranous } Croup	-	-	-	-	-	-	-	-	3
		45	42	39	45	39	61	39	47	41





D.  
C.

Summary of Sanitary Work done in the Inspector of Nuisances' Department during the Year 189<sup>3</sup>

in ~~the Derbyshire portion of~~ the

*Urban*

Sanitary District of

*St. Keston. (Borough)*

							Inspections and Observations made.	Informal Notices served by Inspector.	Legal Notices by Authority.	Nuisances Abated after Notice.
Dwelling Houses and Schools.	Foul Conditions	...	...	...	...	...	11	11	11	11
	Structural Defects	...	...	...	...	...	102		102	102
	Overcrowding	...	...	...	...	...	8	8	8	8
	Unfit for Habitation	...	...	...	...	...	1	1		1
	Lodging Houses	...	...	...	...	...	15			
	Dairies and Milkshops	...	...	...	...	...	24			
	Cow Sheds	...	...	...	...	...	43			
	Bakehouses	...	...	...	...	...	55			
	Slaughter-houses	...	...	...	...	...	48	4	1	8
	Canal Boats	...	...	...	...	...	56	6		6
	Ashpits and Privies	...	...	...	...	...	898	16	106	122
House Drainage.	Deposits of Refuse and Manure	...	...	...	...	...	2	2		2
	Water-Closets	...	...	...	...	...	16	16		16
	Defective Traps	...	...	...	...	...	132	36	132	132
	No Disconnection	...	...	...	...	...	14	14	14	14
	Other Faults	...	...	...	...	...				
	Water Supply	...	...	...	...	...				
	Pigsties	...	...	...	...	...	19		19	19
	Animals improperly kept	...	...	...	...	...				
	Offensive Trades	...	...	...	...	...	2	2	1	2
	Smoke Nuisances	...	...	...	...	...	4	4		4
	Other Nuisances	...	...	...	...	...				
TOTALS							1453	126	394	450.

NOTE.—Where an inspection or notice embraces more than one defect, it may be enumerated separately as regards each such defect.

Seizures of unwholesome Food	...	...	...	...	Nos.	There have been 128 old privy-middens altered to tub closets.
Samples of Food taken for Analysis	...	...	...	...		
"    "    found Adulterated	...	...	...	...		
"    of Water taken for Analysis	...	...	...	...	4	4 samples of water were good.
"    "    condemned as unfit for use	...	...	...	...		3 were very much polluted.
PRECAUTIONS AGAINST INFECTIOUS DISEASE.						
Lots of Infected Bedding Stoved or Destroyed	...	...	...	...	5	
Houses Disinfected after Infectious Disease	...	...	...	...	25	
Schools	"	"	"	...		
Prosecutions for not Notifying Existence of Infectious Disease	...	...	...	...		
Convictions	"	"	"	...		
Prosecutions for Exposure of Infected Persons or Things	...	...	...	...	4	
Convictions	"	"	"	...	4	

*(Signed) Thomas Evans.*



